Continuum Dynamics (CCS-2)
Publications and Presentations,
March 2004-March 2005

Telluride Team

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J. Cullum, M. Hall, W. Joubert, T. Betlach, and B. Lally, "Scalable Parallel Linear Solvers for ASCI Applications—Scaling Across Thousands of Processors," technical report LA-UR-04-1879, Los Alamos National Laboratory. (Presentation to the CCS Division Review Committee.)

S. Cummins, M. Francois, D. Kothe, "Estimating Curvature from Volume Fractions, Computers and Structures," Vol. 83, Issue: 6-7, pp. 425-434, February 2005.

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S. Cummins, J. Mohd-Yusof, M. Francois, D. Kothe, "Eulerian Techniques for Crystal Growth," Telluride Workshop presentation, June 2004, and technical report, LA-UR-04-4250, Los Alamos National Laboratory.

A. Davis, M. Hall, and Igor N. Polonsky, "Three-Dimensional Radiative Transfer, Simplified ... with Cloud Modeling and Remote Sensing in Mind," technical report, LA-UR-05-2282, Los Alamos National Laboratory. (Presentation to the ARM Science Team Meeting in Daytona Beach, Fla.)

M. Francois, "Interfacial Flow Computations with the Volume of Fluid and Immersed Boundary Methods," presented at invited seminars at New Mexico State University, Texas A&M, and the University of Illinois at Urbana-Champaign. (Also a technical report, LA-UR-04-1852, Los Alamos National Laboratory.)

M. Francois, "Modeling of Surface Tension Force within a Volume-of-Fluid Formulation," presented at a Los Alamos National Laboratory, CCS-2 seminar, June 2004. (Also a technical report, LA-UR-04-4207, Los Alamos National Laboratory.)

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W. Joubert, M. Hall, J. Cullum, T. Betlach, and Bryan Lally, "Experiences with Linear Solvers on ASCI Applications: Achieving Scalability and Related Issues," technical report, LA-UR-04-1462, Los Alamos National Laboratory. (Also a presentation to the ASCI Computational Physics Methods Workshop in Monterey, Calif.)

W. Joubert, M. Hall, J. Cullum, and B. Lally, "The LAMG Solver Library: Recent Results and Future Plans," technical report, LA-UR-05-1345, Los Alamos National Laboratory. (Also a presentation at LANL.)

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J. Turner and D. Kothe, "Implications of Petascale Computing for LANL Applications," technical report, LA-UR number pending, Los Alamos National Laboratory. (Also a presentation in March 2005 at the Department of Energy Office of Science Petascale/s Compact Simulation Application Workshop.)

J. Turner and S. Swaminarayan. "Radiative Heat Transfer in Truchas," technical report, LA-UR-04- 4329, Los Alamos National Laboratory. (Also a presentation in June 2004 at the Second Annual Telluride Workshop.)

Radiation Hydrodynamics Team

M. Christon, "Compatible Extensions for Finite Element Lagrangian Hydrodynamics," to be presented at the Eighth U.S. National Congress on Computational Mechanics, Austin,

Texas, July 24-28, 2005. (Also a technical report, LA-UR-05-2032, Los Alamos National Laboratory.)

M. Christon and R. Patil, "A Finite Element Projection Method for Low-Mach Number Reacting Flows," to appear in Proceedings of the Third MIT Conference on Computational Fluid and Solid Mechanics, K.J. Bathe (editor), Elsevier, 2005. (Also a technical report, LA-UR-05-2031, Los Alamos National Laboratory.)

G. Dilts, "Consistent Thermodynamic Derivative Estimates for Tabular Equations of State," submitted to *Physical Review E*, March 2005.

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D. Livescu, "Overview of the Compressible Rayleigh-Taylor Instability," LDRD-DR Seminar, Los Alamos National Laboratory, December 10, 2004.

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Climate and Ocean Modeling Team

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Data-Driven Modeling Team

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